

Listing of Claims:

1. (Previously presented) Inorganic fiber insulation material comprising:
scrap inorganic insulation fibers; and
plastic-containing bonding fibers;
said scrap inorganic fibers containing phenol/formaldehyde binder thereon and the scrap inorganic fibers and the plastic-containing bonding fibers being uniformly blended and bonded together by a portion of the plastic of said plastic-containing bonding fibers.
2. (Previously presented) The inorganic fiber insulation material of claim 1, wherein the inorganic fiber insulation material has substantially uniform density throughout its volume.
3. (Previously presented) The inorganic fiber insulation material of claim 1, wherein the scrap inorganic insulation fibers are scrap rotary glass fibers or scrap rotary glass fibers and scrap textile fibers.
4. (Original) The inorganic fiber insulation material of claim 1, wherein the scrap inorganic insulation fibers have average diameter of about 1 to 10 micrometers.
5. (Original) The inorganic fiber insulation material of claim 1, wherein the scrap inorganic insulation fibers have average diameter of about 2 to 5 micrometers.
6. (Original) The inorganic fiber insulation material of claim 1, wherein the scrap inorganic insulation fibers have an average fiber length not greater than about 250 mm.
7. (Original) The inorganic fiber insulation material of claim 1, wherein the scrap inorganic insulation fibers have an average fiber length not greater than about 127 mm.
8. (Original) The inorganic fiber insulation material of claim 1, wherein the scrap inorganic insulation fibers are about 70 to 90 wt. % of the inorganic fiber insulation material.

9. (Original) The inorganic fiber insulation material of claim 1, wherein the plastic-containing bonding fibers comprise bi-component fibers.
10. (Original) The inorganic fiber insulation material of claim 9, wherein the bi-component fibers are sheath-core, side-by-side, island-in-the-sea, or segmented-pie cross-section type.
11. (Original) The inorganic fiber insulation material of claim 9, wherein the bi-component fibers comprise:
 - a core material; and
 - a sheath material, wherein the sheath material has a melting point temperature lower than the melting point temperature of the core material.
12. (Original) The inorganic fiber insulation material of claim 11, wherein the core material and the sheath material are both thermoplastic polymers.
13. (Original) The inorganic fiber insulation material of claim 11, wherein the core material is a mineral and the sheath material is a thermoplastic polymer.
14. (Original) The inorganic fiber insulation material of claim 11, wherein the core material and the sheath material are same thermoplastic polymer but of different formulations.
15. (Original) The inorganic fiber insulation material of claim 1, wherein the plastic-containing bonding fibers comprise mono-component thermoplastic polymer fibers.
16. (Original) The inorganic fiber insulation material of claim 1, wherein the plastic-containing bonding fibers have average fiber diameter of about 10 to 20 micrometers.
17. (Original) The inorganic fiber insulation material of claim 1, wherein the plastic-containing bonding fibers have average fiber diameter not greater than 16 micrometers.

18. (Previously presented) The inorganic fiber insulation material of claim 1, wherein the plastic-containing bonding fibers are about 10 to 30 wt. % of the inorganic fiber insulation material.

19. (Original) The inorganic fiber insulation material of claim 1, wherein said inorganic fiber insulation material has a gram weight of about 310 to 2100 gm/m².

20. (Original) The inorganic fiber insulation material of claim 1, wherein said inorganic fiber insulation material has a density of about 24 to 48 kg/m³.

21. (Original) The inorganic fiber insulation material of claim 1, wherein said inorganic fiber insulation material after curing has a thickness of about 13 to 89 mm.

22. (Previously presented) Inorganic fiber insulation product comprising:

a final mat having a first side and a second side, the mat comprising:

- loose fiber insulation-type glass fibers;
- plastic-containing bonding fibers, said scrap glass fibers containing phenol/formaldehyde binder thereon and the scrap glass fibers and the plastic-containing bonding fibers being uniformly blended together to form a blended layer having a substantially uniform density throughout its volume, wherein the plastic-containing bonding fibers bond at least a portion of the glass fibers together; and
- a facing layer bonded to at least one of the two sides of the mat.

23.-24. (Canceled)

25. (Original) The inorganic fiber insulation product of claim 22, wherein the facing layer is a vapor barrier.

26. (Previously presented) The inorganic fiber insulation product of claim 25, wherein the vapor barrier is polyethylene film, kraft paper, kraft paper coated with asphalt, foil, foil-backed paper, foil-backed paper coated with asphalt, or flame-resistant foil-scrim-kraft paper.

27. (Original) The inorganic fiber insulation product of claim 22, wherein the facing layer is made from a scrim, woven, non-woven, knit, braided, needled, or composite fabric.
28. (Original) The inorganic fiber insulation product of claim 27, wherein the fabric layer is treated with water resistant additive made from epoxy foam, acrylic, or asphalt.
29. (Canceled)
30. (Previously presented) The inorganic fiber insulation product of claim 22, wherein said scrap glass fibers have average diameter of about 1 to 10 micrometers.
31. (Previously presented) The inorganic fiber insulation product of claim 22, wherein said scrap glass fibers have average diameter of about 2 to 5 micrometers.
32. (Previously presented) The inorganic fiber insulation product of claim 22, wherein said scrap glass fibers have an average fiber length not greater than about 250 mm.
33. (Previously presented) The inorganic fiber insulation product of claim 22, wherein said scrap glass fibers have an average fiber length not greater than about 127 mm.
34. (Previously presented) The inorganic fiber insulation product of claim 22, wherein said scrap glass fibers comprise about 70 to 90 wt. % of the final mat.
35. (Original) The inorganic fiber insulation product of claim 22, wherein the plastic-containing bonding fibers comprise bi-component fibers.
36. (Original) The inorganic fiber insulation product of claim 22, wherein the plastic-containing bonding fibers comprise mono-component thermoplastic polymer fibers.
37. (Original) The inorganic fiber insulation product of claim 35, wherein the bi-component fibers are sheath-core, side-by-side, island-in-the-sea, or segmented-pie cross-section type.

38. (Original) The inorganic fiber insulation product of claim 35, wherein the bi-component fibers comprise:

a core material; and
a sheath material, wherein the sheath material has a melting point temperature lower than the melting point temperature of the core material.

39. (Original) The inorganic fiber insulation product of claim 38, wherein the core material and the sheath material are both thermoplastic polymers.

40. (Original) The inorganic fiber insulation product of claim 38, wherein the core material is a mineral and the sheath material is a thermoplastic polymer.

41. (Original) The inorganic fiber insulation product of claim 38, wherein the core material and the sheath material are same thermoplastic polymer but of different formulations.

42. (Original) The inorganic fiber insulation product of claim 22, wherein the plastic-containing bonding fibers have average fiber diameter of about 10 to 20 micrometers.

43. (Original) The inorganic fiber insulation product of claim 22, wherein the plastic-containing bonding fibers have average fiber diameter not greater than 16 micrometers.

44. (Previously presented) The inorganic fiber insulation product of claim 22, wherein the plastic-containing bonding fibers are about 10 to 30 wt. % of the final mat.

45. (Original) The inorganic fiber insulation product of claim 22, wherein said inorganic fiber insulation product has a gram weight of about 310 to 2100 gm/m².

46. (Original) The inorganic fiber insulation product of claim 22, wherein said inorganic fiber insulation product has a density of about 24 to 48 kg/m³.

47. (Original) The inorganic fiber insulation product of claim 22, wherein said inorganic fiber insulation product after curing has a thickness of about 13 to 89 mm.

48. - 55. (Canceled)

56. (Previously presented) The inorganic fiber insulation product of claim 22, wherein the facing layer is bonded to said at least one of the two sides of the mat by a melted and resolidified portion of said plastic-containing bonding fibers.